

**Inkberrow Millennium Green – survey of Angiosperms (flowering plants) in three floristically rich areas of fields 1 and 2.
June / July 2004**

The 1999 survey established that the area represented a typical 'old meadow' mesotrophic grassland of type MG5 i.e. a lowland Midland grassland circum neutral brown soils generally loamy or clayey with a range of pH and calcium content.

Grassland type MG5 is characterised by two plants:
Cynosurus cristatus (Crested Dog's Tail) and *Centaurea nigra* (Common Knapweed)

Nationally three sub-communities exist:

- a) *Lathyrus pratensis* (Meadow Vetchling)
- b) *Galium verum* (Lady's Bedstraw)
- c) *Danthonia decumbens* (Heath grass)

Each of these sub-communities has its own associated plant species. Our grasslands have elements of the first two of these three sub-communities i.e. Meadow Vetchling and Lady's Bedstraw.

It must be remembered that the three areas surveyed in 2004 are comparable to 1999 but the quadrats are not identical sites.

The survey was carried out using the criteria and methods proposed in the National Vegetation Classification (NVC1976) – see attached sheet.

The tables show the **Frequency** and **Abundance** of the recorded species in the quadrats studied.

The results show **increasing species lists** for all three areas. Our overall impressions are that the present management regime is slowly improving / restoring the typical MG5 characteristics with dominant Knapweed plus Lady's Bedstraw or Meadow Vetchling sub-communities.

More aggressive management i.e. cutting / grazing is required in the more neglected areas of field 2 if our flowering plants are to increase.

The survey clearly reveals why the Millennium Green was included in the County list of Special Wildlife Sites with its diversity of habitat and number of species.

Many thanks to the ten members of the survey group:

Gill Chiverrell, Dinah Griffin, Nicki Higginson, Tom Hodgkinson, Cyril Johnson, Wendy Johnson, Jane Mowbray, Tim Patrickson, Jane Richardson, Gareth Thomas.

The survey took approximately 45 'field hours' often under damp conditions. The survey gives future Trustees a data base from which to establish the effect of management on our grassland species.

Gareth Thomas
March 1st 2005

Survey of the Angiosperms [Flowering Plants] of Church Hill, Millennium Green.

Data collection has been carried out during the Summer using the criteria and methods proposed in the National Vegetation Classification { N V C - 1975. }

The sampling technique required recording of all species within each quadrat [sampling area] of the homogeneous plant community being studied.

Each community or sub-community required 5-x 2m² quadrats to be studied with all species being measured for FREQUENCY and ABUNDANCE.

A quantitative measure of the ABUNDANCE of each species was recorded using the DOMIN scale - cover being assessed by eye as a vertical projection on to the ground of all the live, above ground parts of the plants in the quadrat.

Cover of 91-100% is recorded as DOMIN	10
76-90%	9
51-75%	8
34-50%	7
26-33%	6
11-25%	5
4-10%	4
<4% with many individuals	3
<4% with several individuals	2
<4% with few individuals	1

In this context the term 'abundance' is used to describe how much of a plant species is present in a sample, irrespective of how frequent or rare it is among the samples.

A quantitative measure of the FREQUENCY refers to how often a plant is found on moving from one sample of the vegetation to the next irrespective of how much of that species is present in each sample. Thus a species found in all 5 quadrats would have frequency V - the maximum possible { shown in Roman numerals}.

Species of frequency classes IV and V represent the CONSTANTS of a community.

- class III - common or frequent species
- class II - occasional
- class I - scarce

Because of the limitations of time and expertise the initial survey has concentrated on Higher Plants [Angiosperms or Flowering Plants]. Ongoing surveys will need to cover Lower Plants - Fungi, Mosses, Ferns etc. as well as all animal species.

National Vegetation Classification

Millennium Green

Field 1 2004

Quadrats

Above seat

27/6 27/6 29/6 29/6 1/7

PLANT SPECIES	1	2	3	4	5	Freq.	Dom.
Lotus corniculatus- Bird's-foot trefoil	6	2	5	3	2	5	2-6
Galium verum- Lady's Bedstraw	5	7		2	6	4	2-7
Plantago lanceolata- Ribwort Plantain	4	4	4	3	3	5	3-4
Trifolium repens- White Clover	1	1	1			3	1
Cirsium arvense- Creeping Thistle	1					1	1
Agrimonia eupatoria- Agrimony	2	2	2	2	3	5	2-3
Primula veris- Cowslip	4	2	1		3	4	1-4
Rumex acetosa- Common Sorrel	3	2				2	2-3
Cerastium fontanum- Common Mouse-ear	1					1	1
Luzula campestris- Field Woodrush	2	1				2	1-2
Trifolium pratense- Red Clover	1	1		1		3	1
Potentilla reptans- Creeping Cinquefoil		5	5	4	2	4	2-5
Centaurea sp- Knapweed		1	5	5	7	4	1-7
Ranunculus acris- Meadow Buttercup		1		1		2	1
Hypochaeris radicata- Cat's-ear		1	2			2	1-2
Rhinanthus minor -Yellow-rattle			1			1	1
Geranium dissectum - Cut-leaved Crane's-bill			1	1		2	1
Achillea millefolium- Yarrow			1		1	2	1
Helictotrichon pratense- Meadow Oat-grass	4	4	2	4	4	5	1-4
Trisetum flavescens- Yellow Oat-grass	4	1	4	1	2	5	1-4
Hordeum secalinum- Meadow Barley	1			2		2	1-2
Dactylis glomerata- Cocksfoot	2	4	4	4	2	5	2-4
Phleum pratense- Timothy	2	2			1	3	1-2
Phleum bertolonii- Small Timothy	1	1				2	1
Lolium perenne- Perennial Ryegrass	1		1			2	1
Agrostis capillaris- Common Bent	3	2	2	1	1	5	1-3
Arrhenatherum elatius- Tall Oat-grass	4	4	4	7	4	5	4-7
Bromus erectus- Upright Brome				2		1	2
Poa pratensis - Smooth Meadow-grass	4					1	4
Festuca ovina vivipara- Viviparous Sheep's Fescue	1	3		2		3	1-3
Cynosurus cristatus - Crested Dogstail	1					1	1
Alopecurus pratensis- Meadow Foxtail		1	4			2	1-4
Holcus lanatus- Yorkshire Fog		1				1	1
Festuca rubra- Red Fescue		3	4		4	3	3-4
Pimpinella saxifraga-Burnet-Saxifrage				1		1	1
Leontodon hispidus -Rough Hawkbit			1			1	1
Rumex sanguineus- Wood Dock				1		1	1
Convolvulus arvensis- Field Bindweed			1	4		2	1-4
Festuca pratensis- Meadow Fescue					1	1	1

National Vegetation Classification

Millennium Green

Field 2 2004

Quadrats

ski- slope area

6/7 6/7 6/7 13/7 13/7

PLANT SPECIES	1	2	3	4	5	Freq.	Dom.
Galium verum- Lady's Bedstraw	7	5	4	8	7	5	4-8
Lotus corniculatus- Bird's-foot trefoil	4	3	3	2		4	2-4
Agrimonia eupatoria- Agrimony	3	4	2	4	4	5	2-4
Trifolium repens- White Clover	3	4	2		1	4	1-4
Cirsium arvense- Creeping Thistle	1	1			1	3	1
Prunella vulgaris- Self-heal	1	1	2		1	4	1-2
Cerastium fontanum- Common Mouse-ear	1	1			1	3	1
Primula veris- Cowslip	3	2	4	4	3	5	2-4
Leontodon hispidus -Rough Hawkbit	1		1			2	1
Centaurea sp- Knapweed	2	2	2	3	5	5	2-5
Plantago lanceolata- Ribwort Plantain	3	3	4			3	3-4
Potentilla reptans- Creeping Cinquefoil	2	4	4	3	1	5	1-4
Luzula campestris- Field Woodrush	1					1	1
Taraxacum sp- Dandelion	1		1			2	1
Picris echioides-Bristly Oxtongue	1					1	1
Veronica chamaedrys- Germander Speedwell	2		1		4	3	1-4
Torilis japonica- Upright Hedge Parsley	2					1	2
Arrhenatherum elatius- Tall Oat-grass	4	5	5	5	4	5	4-5
Trisetum flavescens- Yellow Oat-grass	4	4	5	5	2	5	2-5
Agrostis capillaris- Common Bent	2	3	3	1	1	5	1-3
Dactylis glomerata- Cocksfoot	4			1	1	3	1-4
Phleum bertolonii- Small Timothy	2		3			2	2-3
Cynosurus cristatus - Crested Dogstail	1		2	2		3	1-2
Festuca pratensis- Meadow Fescue	1					1	1
Poa trivialis- Rough Meadow Grass	1					1	1
Festuca rubra- Red Fescue	3	4	4			3	1-3
Trifolium pratense- Red Clover		2	2	2		3	2
Sanguisorba minor- Salad Burnet		4	5	4		3	4-5
Cirsium vulgare- Spear Thistle		1	2			2	1-2
Rubus sp- Bramble		2				1	2
Convolvulus arvensis- Field Bindweed		2				1	2
Brachypodium pinnatum-Tor Grass		2				1	2
Fraxinus excelsior -Ash				1		1	1
Trifolium campestre- Hop Trefoil				2		1	2
Malva moschata- Musk Mallow				1		1	1
Rumex obtusifolius- Broad leaved Dock				1		1	1
Achillea millefolium- Yarrow				1	1	2	1
Ranunculus sp- Buttercup				1		1	1
Hieracium umbellatum- Hawkweed				1		1	1
Lolium perenne- Perennial Ryegrass				2		1	2
Phleum pratense -Timothy				2	3	2	2-3
Knautia arvensis- Field Scabious					2	1	2
Anthoxanthum odoratum- Sweet Vernal Grass					1	1	1
Lathyrus pratensis- Meadow Vetchling					4	3	2
Hypochaeris radicata- Cat's-ear						2	1
Rumex acetosella- Sheep's Sorrel						1	1

National Vegetation Classification

Millennium Green
QuadratsField 2 2004
steep slope left of steps

	27/7	27/7	25/7	8/8	8/8		
PLANT SPECIES	1	2	3	4	5	Freq	Dom.
Agrimonia eupatoria- Agrimony	1	2				2	1-2
Galium verum- Lady's Bedstraw	4	5	5	6	5	5	4-6
Convolvulus arvensis- Field Bindweed	1					1	1
Potentilla reptans- Creeping Cinquefoil	5	2		1	1	4	1-5
Sanguisorba minor- Salad Burnet	5	2				2	2-5
Prunella vulgaris- Self-heal	1					1	1
Medicago lupulina- Black Medick	2					1	2
Luzula campestris- Field Woodrush	1					1	1
Trifolium repens- White Clover	2	2	2			3	2
Plantago lanceolata- Ribwort Plantain	2	2	5	5	4	5	2-5
Lathyrus pratensis- Meadow Vetchling	2		3	1	1	4	1-3
Trifolium pratense- Red Clover	3		2	2	2	4	2-3
Carex sp- Sedge	2					1	1-2
Lotus corniculatus- Bird's-foot trefoil	2	2	3			3	2-3
Leontodon hispidus -Rough Hawkbit	1		2		2	3	1-2
Pimpinella saxifraga-Burnet-Saxifrage	1	1			2	3	1-2
Arrhenatherum elatius- Tall Oat-grass	5			4	4	3	4-5
Trisetum flavescens- Yellow Oat-grass	2	2	4	5	5	5	2-5
Cynosurus cristatus - Crested Dogstail	2	1			1	3	1-2
Poa sp- Meadow Grass sp	2	1				2	1-2
Cirsium arvense- Creeping Thistle		2		1	4	3	1-4
Torilis arvensis- Spreading Hedge Parsley		1	1	1	1	4	1
Primula veris- Cowslip		2	2	4	3	4	2-4
Veronica chamaedrys- Germander Speedwell		1	4	2	3	4	1-4
Cerastium fontanum- Common Mouse-ear		1		2	3	3	1-3
Hordeum secalinum- Meadow Barley		2				1	2
Dactylis glomerata- Cocksfoot		3	2	4	5	4	2-5
Trifolium campestre- Hop Trefoil		1				1	1
Helictotrichon pratense- Meadow Oat-grass		4	4			2	4
Bromus erectus- Upright Brome			3			1	3
Helictotrichon pubescens- Hairy Oat Grass			5		4	2	4-5
Achillea millefolium- Yarrow			2			1	2
Hypochaeris radicata- Cat's-ear			2			1	2
Ranunculus sp- Buttercup			1	1	1	3	1
Urtica dioica- Common Nettle				1	1	2	1
Poa trivialis- Rough Meadow Grass				4	4	2	4
Leontodon autumnalis- Autumn Hawkbit					3	1	3
Poa annua- Annual Meadow Grass					1	1	1
Agrostis capillaris- Common Bent					4	1	4
Lolium perenne- Perennial Rye Grass					1	1	1